

DOCKET FILE COPY ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
Advanced Television Systems)
and Their Impact Upon the) MM Docket No. 87-268
Existing Television Broadcast)
Service)

SUPPLEMENT TO PETITION FOR PARTIAL RECONSIDERATION
OF THE SIXTH REPORT AND ORDER

CBS Inc., by its attorney, hereby supplements its June 13, 1997 petition for partial reconsideration ("CBS Petition") of the Sixth Report and Order in the above proceeding, in which the Commission "adopts a Table of Allotments for digital television (DTV), rules for initial DTV allotments, procedures for assigning DTV frequencies, and plans for spectrum recovery."¹

I. Introduction.

In the CBS Petition, we urged the Commission to reconsider the Sixth Report and Order insofar as it decided that proposed NTSC facilities modifications should be

¹ Sixth Report and Order, MM Docket No. 87-268, released April 21, 1997 at ¶1 ("Sixth Report and Order").

excluded from the Commission's DTV allotment database if applications for them were still pending on April 3, 1997, regardless of when the applications were filed and regardless of any other circumstances, such as whether they had been fully processed and were grantable before that deadline. The result of this exclusion is that the initial DTV allotments for such stations were not designed to replicate any increase in coverage area associated with their modified facilities.

In particular, CBS urged that the database be changed to include NTSC signal parameters for WWJ-TV, Detroit which reflect its construction permit to increase power to 5 megawatts and change its antenna height (File No. BPCT-950330KF). That application was filed in March 1995 but not granted until April 21, 1997. CBS filed that application to ameliorate a serious signal coverage problem that affected its ability to reach its core Detroit-area audience with CBS Television Network and locally originated programming and has committed \$11,000,000 to upgrading the station.² CBS reasonably expected that, when the application was granted, the station's DTV allotment would take into account its new NTSC service area, so that WWJ-TV would not be required to revert to inadequate coverage of the Detroit market on its digital channel during and after the transition to digital television broadcasting. Finally, we understand that the WWJ-TV modification application had

² CBS Petition at p. 4.

completed the Canadian coordination process, and was otherwise ready for grant, well before the April 3 "cut-off" date for inclusion in the DTV allotment database.³

In the CBS Petition, we also urged the Commission to reconsider the Sixth Report and Order so that new DTV channels in the 60-69 range would be allotted in a special situation, such as that affecting WWJ-TV, where there is a particularly difficult marketwide allotment problem⁴ and where a particular licensee is uniquely disadvantaged by limiting DTV allotments in the market to predetermined "core" spectrum.⁵ Finally, we noted possible problems with CBS's allotments in various markets and, with respect to Detroit, indicated that we were analyzing potential alternative channels which would allow replication of WWJ's modified service area but did not yet have enough information to offer a definitive solution.⁶

³ Id.

⁴ The overall problem of achieving NTSC service area replication in the DTV environment using only core spectrum is exacerbated in Detroit because of the necessity to take into account Canadian licensees operating on those core channels.

⁵ CBS Petition at p. 5. The Commission has recently contemplated the possibility that additional Channel 60-69 DTV allotments might be made. Notice of Proposed Rulemaking, ET Docket No. 97-157, FCC 97-245, released July 10, 1997 ("60-69 Reallocation Notice").

⁶ Id. at p.8. In the CBS Petition, we briefly discussed a few other markets which may raise various possible problems in the replication of the NTSC signals of CBS owned stations in the DTV environment. We are not yet in a position to propose specific solutions for those problems, but we hope and expect that the Commission will adopt an efficient mechanism for adjusting the table, in cooperation with the industry, as discrete individual or regional solutions are developed. See Petition for Partial Reconsideration and Clarification of the Fifth and Sixth Reports and Orders Submitted by the Association for Maximum Service Television, Inc. and Other Broadcasters, MM Docket No. 87-286 (June 13, 1997). As discussed herein, the

On July 2, 1997, the Commission released OET Bulletin No. 69, which provided “guidance on the implementation and use of Longley-Rice methodology for evaluating TV service coverage and interference... .”⁷ At the same time, the Commission allowed parties to supplement their petitions for reconsideration on or before August 22 in order to take this guidance into account in proposing specific modifications of their DTV allotments.⁸ CBS hereby supplements the CBS Petition and requests that the Commission act on reconsideration of the Sixth Report and Order to modify the DTV table to allot Channel 65 to WWJ-TV, Detroit in order to allow replication of WWJ-TV’s modified NTSC service area.

II. DTV Channel 65 Should Be Allotted To WWJ-TV For The Purpose Of Facilitating The Replication Of Its Modified Service Area.

In the DTV allotment table adopted in the Sixth Report and Order, WWJ-TV has been allotted DTV Channel 44 in Detroit and assigned a 50 kW power level. As noted above and in the CBS Petition, the NTSC database which served as the basis for implementing the “replication” principle applicable to determining DTV allotments did not include the 5 megawatt NTSC power level and the revised antenna height at which

WWJ-TV problem is uniquely grounded in the failure of the Commission to include the station’s modified NTSC signal parameters in its DTV allotment/assignment database.

⁷ OET Bulletin No. 69 at p. 1.

⁸ Order, MM Docket No. 87-268, adopted July 2, 1997.

WWJ-TV has now been authorized to operate. As a result, WWJ-TV will not be able to replicate its modified NTSC service area on its currently assigned DTV channel.

CBS has now used the methodology described in OET Bulletin No.69 to analyze various alternative possible DTV allotments for WWJ-TV with a view toward identifying a channel which would allow the replication in the DTV environment of its modified NTSC facilities without causing new interference to NTSC or DTV stations. Attached is an Engineering Statement which concludes that Channel 65 meets those criteria.⁹

In the Engineering Statement (at Figure 2), we have calculated the amount of new interference which the station would receive from other DTV stations if it were to operate on its current DTV allotment (Channel 44) at a power and antenna height which would otherwise provide a coverage area equivalent to that resulting from NTSC operation at the power and height authorized in its NTSC construction permit. The result would be DTV interference in a substantial portion of WWJ-TV's core market -- the northwest suburbs of Detroit --where tens of thousands of metropolitan Detroit viewers would not be able to receive CBS programming. We then demonstrate that DTV Channel 65 will provide almost complete replication of WWJ-

⁹ It should be noted that Channel 65 is not among the channels proposed for future public safety use in the pending proceeding to reallocate the 746-806 Mhz band. Rather, the Commission has proposed that Channel 65 be reallocated for fixed, mobile and broadcasting services. See, 60-69 Reallocation Notice, supra. Thus, the grant of CBS's request to operate on DTV Channel 65 during the digital television transition will not delay the ability of public safety agencies in the Detroit area to enhance their capacity to meet their responsibilities during this period.

TV's modified NTSC coverage area while causing no interference to, and receiving virtually no interference from, U.S. NTSC and DTV stations, while meeting the mileage separation requirements with respect to Canadian NTSC stations which were used by the Commission in designing the allotment table.

CBS again requests that the Commission reconsider the Sixth Report and Order to include WWJ-TV's newly authorized NTSC signal parameters in the database used to determine DTV allotments. Further, based on the supplemental information provided herewith, CBS respectfully requests that the Commission modify the DTV allotment table to allot Channel 65 to WWJ-TV, Detroit during the digital television transition in order to facilitate the replication of the station's modified service area in the DTV environment.¹⁰

Respectfully submitted,

CBS Inc.

By 

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August 22, 1997

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¹⁰ WWJ-TV is one of the four CBS owned television stations which have volunteered to construct DTV facilities by November 1, 1998. This requested change to a different DTV channel allotment is not expected to affect the timing of that construction.



ENGINEERING STATEMENT
SUPPLEMENT TO PETITION FOR PARTIAL RECONSIDERATION
OF THE SIXTH REPORT AND ORDER

Prepared by: Walter Sidas, P.E.

Walter Sidas

Director Broadcast Transmission Engineering
CBS Inc.

August 20, 1997

ENGINEERING STATEMENT

In the *Sixth Report and Order* (MM Docket No. 87-268), the Commission allotted DTV Channel 44 to WWJ-TV, the CBS Owned station operating on Channel 62 in Detroit, Michigan. The allotted DTV power is 50 kW (average) at a Height Above Average Terrain (HAAT) of 296 meters.

This DTV allotment replicates the NTSC coverage of WWJ-TV's Channel 62 operation of 1,000 kW, nondirectional, at a HAAT of 296 meters, at latitude 42-27-13 and longitude 83-09-50. However, as described in this *Supplement to Petition for Partial Reconsideration*, WWJ-TV has received Commission authorization to increase power to 5,000 kW, increase HAAT to 327 meters and utilize a directional antenna to protect a short-spaced, Channel 60 operation in Windsor, Ontario. A new tower will be constructed for WWJ-TV at latitude 42-26-52 and longitude 83-10-23, a distance of 0.99 km (0.62 statute miles) from the existing tower.

CBS has analyzed the coverage of the Commission's DTV allotments using the Longley-Rice model software developed by Maximum Service Television, Inc. (MSTV). The output of this software has been demonstrated to be consistent with that of the Longley-Rice methodology used by the Commission and described in OET Bulletin No. 69, dated July 2, 1997, as issued by the FCC Office of Engineering and Technology.

Figure 1 is a map displaying the calculated coverage of the Channel 44 DTV allotment for WWJ-TV proposed by the Commission. It assumes the minimum 50 kW (average) power and a computed HAAT of 297.7 meters¹. Table 1 displays the calculated interference parameters of this operation. As seen in Table 1, the allotted DTV coverage of WWJ-TV will experience interference from the following DTV stations: WJUE, Channel 44, Battle Creek, MI; WDIV, Channel 45, Detroit, MI; WTVS, Channel 43, Detroit, MI; and WFUM, Channel 52, Flint, MI. The total interference from other DTV stations to the allotted DTV operation of WWJ-TV will incorporate an area of 1,301.7 sq. km and a population of 143,592.

¹The 297.7 meters HAAT is the computed HAAT by the Longley-Rice software that in some cases differs slightly from the 296 meters HAAT calculated for the Construction Permit.

Figure 2 is a map displaying the calculated coverage of a Channel 44 DTV operation that would replicate the operation of 5,000 kW at an HAAT of 327 meters of the authorized modifications to the WWJ-TV facility. An ERP of 116.8 kW (average) at a HAAT of 326 meters will provide an equivalent DTV coverage to the improved Channel 62 operation. Table 2 displays interference from other DTV stations to this hypothetical DTV operation of WWJ-TV that will affect an area of 1,519 sq. km and a population of 178,964. A comparison of the Total IX from DTV stations between Table 1 and Table 2 shows that area in Figure 2 would experience interference to an additional 217.5 sq. km (1301.7 vs. 1,519.2 sq. km) and an additional population of 35,372 (143,592 vs. 178,964 persons).

In an effort to provide adequate DTV coverage to the entire Detroit area, and not create additional interference to other existing or allotted stations, CBS has investigated the suitability of alternative DTV channels and requests the Commission to allot DTV Channel 65 to WWJ-TV. The allotment of Channel 65 for the DTV operation of WWJ-TV would afford WWJ-TV the opportunity to increase its coverage to replicate that of its authorized modified facility while minimizing interference to other stations.

Table 3 displays the NTSC and DTV allotments within 200 kilometers of Detroit, including Canadian NTSC allotments. The closest existing NTSC Channel 65 allotment to the proposed Channel 65 allotment for WWJ-TV is a new station in Defiance, OH, located 162 km from WWJ-TV. The proposed allotment of Channel 65 to WWJ-TV will not cause interference to this station.

The closest adjacent channel NTSC allotments to the proposed Channel 65 allotment for WWJ-TV are:

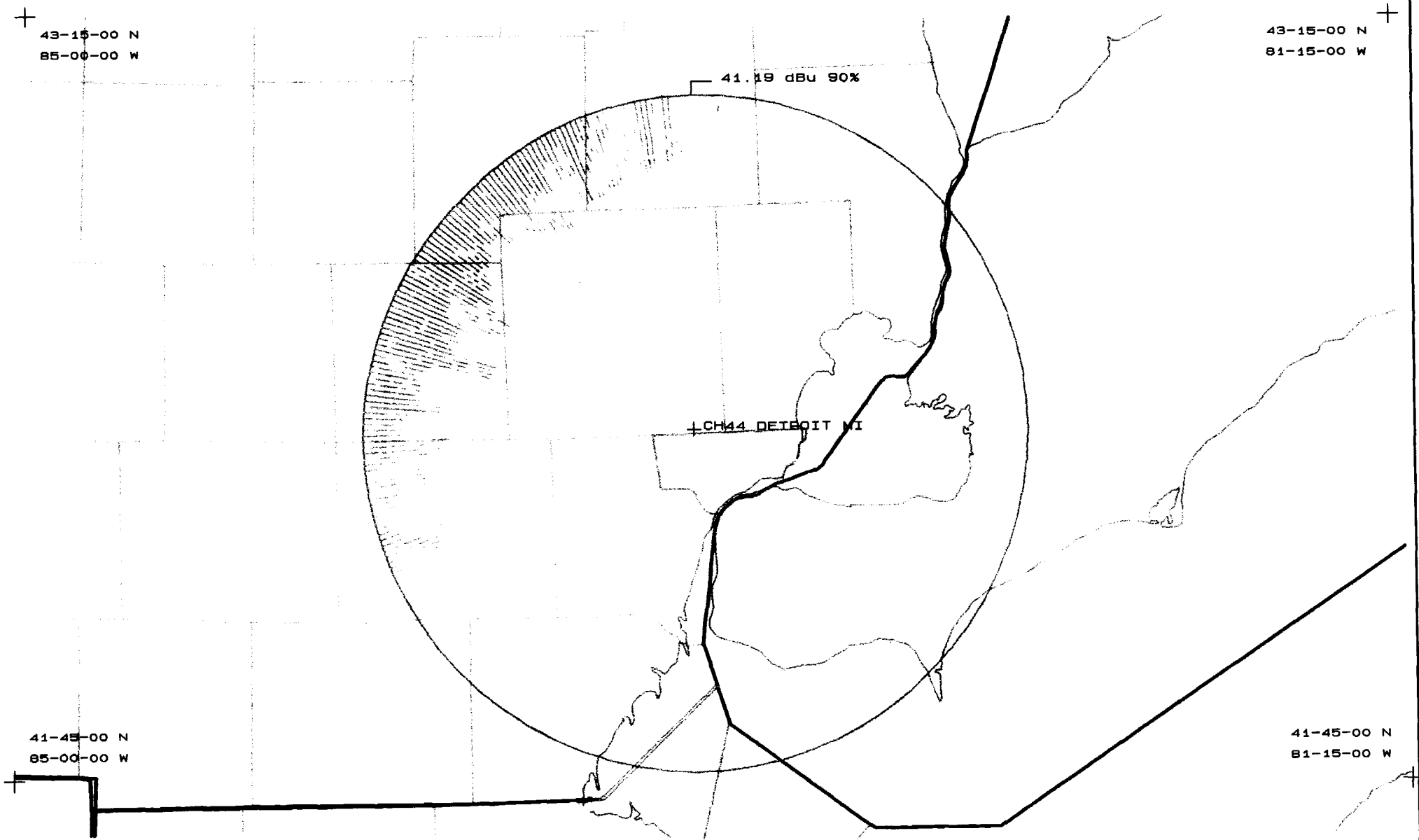
WLLA,	Channel 64, Kalamazoo, MI	distance 188 km
NEW,	Channel 64, St. Thomas, ON	distance 166 km
CBLN,	Channel 64, Chatham, ON	distance 89.4 km
WSMH,	Channel 66, Flint, MI	distance 112 km

While the Canadian DTV allotment criteria have not been published, adjacent NTSC Channel 64, CBLN-TV3, Chatham, Ontario, meets the Commission's 88.5 km DTV to NTSC spacing criteria for modifications to the DTV Table (Section 73.623 (d)). CBS has also reviewed the television station database available from the Department

of Commerce and notes that CBLN-TV3 is a limited facility, operating at a power of 10.6 dBk (11.5 kW).

In the United States, there are no DTV allotments above Channel 59 within 200 kilometers of WWJ-TV.

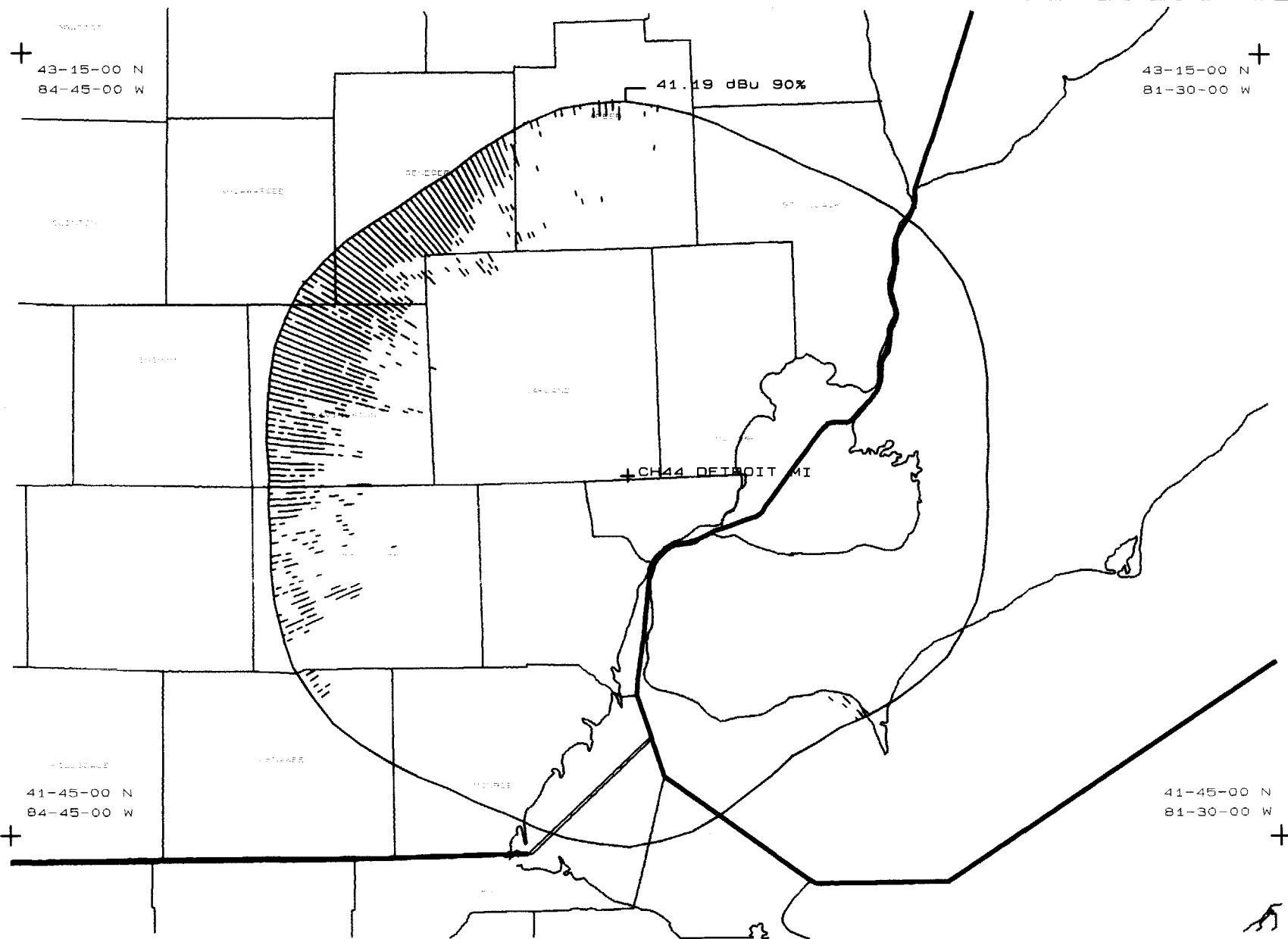
Figure 3 is a map displaying the calculated coverage of the proposed Channel 65 DTV allotment for WWJ-TV. The assumed ERP is 169 kW (average) at a HAAT of 326 meters. As shown in Table 4, the proposed operation would suffer minor interference from NTSC station WSMH, Channel 66, Flint, MI. The area of interference would be 166 sq. km, with a population of 70,346. CBS deems this interference to be an acceptable alternative to the anticipated interference to WWJ-TV operating on DTV Channel 44.



Terrain loss - Red, IX NTSC - Blue, ATV - Green
 WWJ -ATV Ch. 44 ERP 50.0 HAAT 297.7
 DETROIT MI Dir. Ant. NONE
 Date: 05 20 97 Scale points 42.45/ 83.16/ 89.65
 FCC PLAN OF APRIL 1997

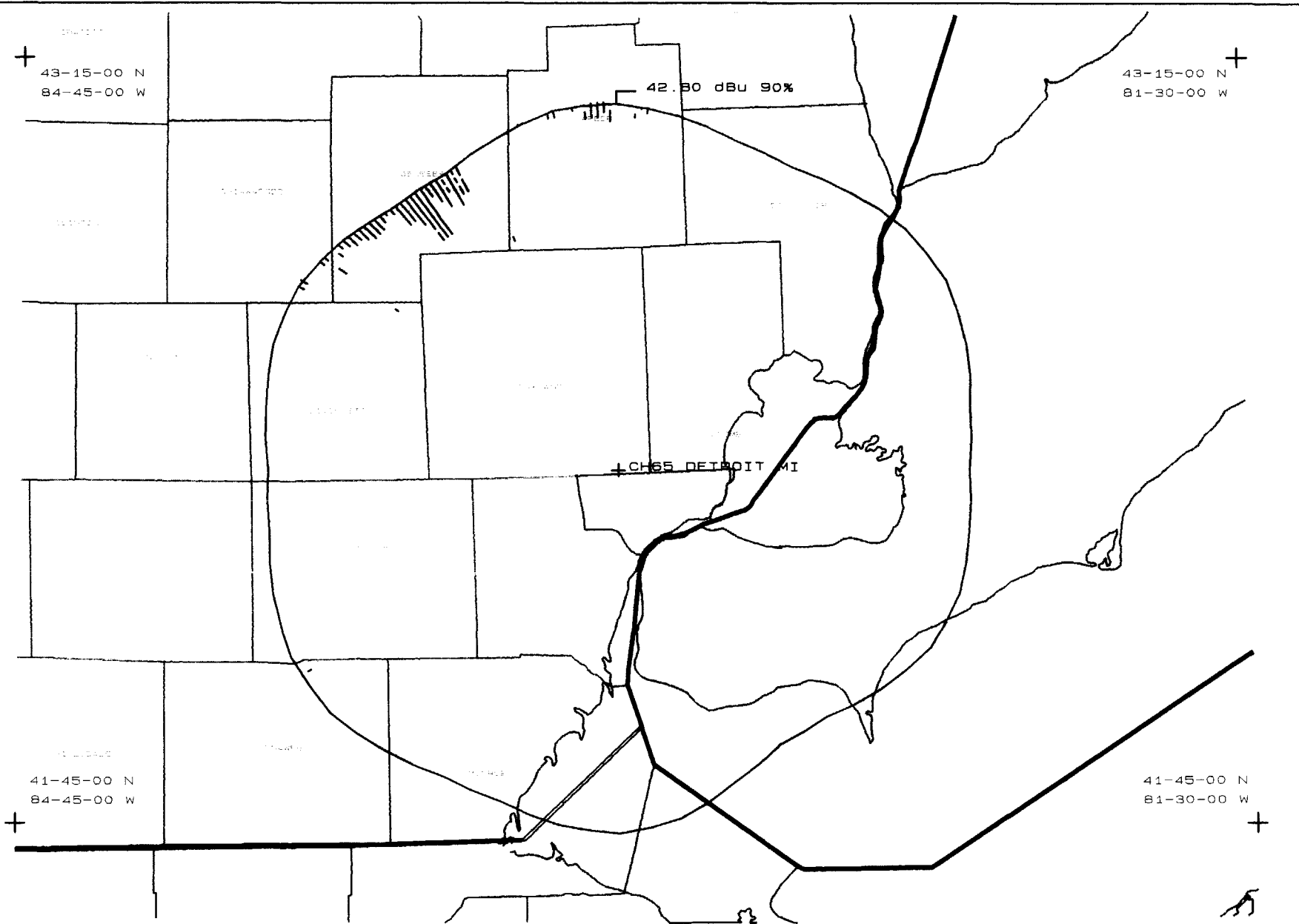
MAJOR DIVISIONS ARE: 10.0 KM
 SCALE IS: 30.30 KM/INCH
 18.83 MILES/INCH

FIGURE 1



Terrain loss - Red, IX NTSC - Blue, ATV - Green
 WWJ -ATV Ch. 44 ERP 116.8 HAAT 325.8
 DETROIT MI Dir. Ant.
 Date: 05 12 97

FIGURE 2



Terrain loss - Red, IX NTSC - Blue, ATV - Green
 WWJ -ATV Ch. 65 ERP 169.2 HAAT 325.8
 DETROIT MI Dir. Ant.
 Date: 05 13 97

FIGURE 3

MAJOR DIVISIONS ARE: 10.0 KM
 SCALE IS: 31.28 KM/INCH
 19.43 MILES/INCH

TABLE 1

Longley-Rice analysis of ATV station

WWJ DETROIT MI Channel 44

ERP 50.00 kw 16.99 dBk HAAT: 297.7 meters ERP MAX 50.0 kw 17.0 dBk

Percent quantiles: Time 90.0% Locations 50.0% Confidence 50.0%

FCC noise limited service area equals 17141.7 square km 17141.7 square km

Service contour: 41.2 dBu Curve F50/90 74.7 km 74.7 km

Population within noise limited service area 4615732

Longley-Rice noise limited service area equals 17136.3 square km

Longley-Rice service population 4615455

Total IX from NTSC stations 0.0 square km

Population in IX area 0

IX from ATV station WJUE BATTLE CREEK MI 44 1290.7 square km

ERP 183.75 kw 22.64 dBk MAX ERP 184.89 kw 22.67 dBk

Protection ratio 15.27 dB

Population in IX area 141870

IX from ATV station WDIV DETROIT MI 45 14.7 square km

ERP 878.97 kw 29.44 dBk MAX ERP 1000.00 kw 30.00 dBk

Protection ratio -43.17 dB

Population in IX area 2741

IX from ATV station WTVS DETROIT MI 43 5.0 square km

ERP 46.50 kw 16.67 dBk MAX ERP 50.00 kw 16.99 dBk

Protection ratio -41.98 dB

Population in IX area 617

IX from ATV station WFUM FLINT MI 52 4.6 square km

ERP 106.43 kw 20.27 dBk MAX ERP 117.50 kw 20.70 dBk

Protection ratio -62.40 dB

Population in IX area 1678

Total IX from ATV stations 1301.7 square km

Population in IX area 143592

Interference caused to: 1301.7 square km of service area

Population in IX area 143592

TABLE 2

Longley-Rice analysis of ATV station

WWJ DETROIT MI Channel 44
ERP 116.78 kw 20.67 dBk HAAT: 325.8 meters ERP MAX 115.8 kw 20.6 dBk

Percent quantiles: Time 90.0% Locations 50.0% Confidence 50.0%

FCC noise limited service area equals 18910.6 square km 18910.6 square km
Service contour: 41.2 dBu Curve F50/90 82.4 km 82.4 km

Above based on replication power of: 116.8 KW

Population within noise limited service area 4719634

Longley-Rice noise limited service area equals 18877.9 square km

Longley-Rice service population 4718849

IX from NTSC station WTLW LIMA OH 44 1.4 square km
ERP 912.00 kw 29.60 dBk
Protection ratio 1.81 dB
Population in IX area 552

Total IX from NTSC stations 1.4 square km

Population in IX area 552

IX from ATV station WJUE BATTLE CREEK MI 44 1509.8 square km
ERP 183.75 kw 22.64 dBk MAX ERP 184.89 kw 22.67 dBk
Protection ratio 15.27 dB
Population in IX area 178455

IX from ATV station WDIV DETROIT MI 45 10.4 square km
ERP 878.97 kw 29.44 dBk MAX ERP 1000.00 kw 30.00 dBk
Protection ratio -43.17 dB
Population in IX area 658

IX from ATV station WTVS DETROIT MI 43 1.0 square km
ERP 46.50 kw 16.67 dBk MAX ERP 50.00 kw 16.99 dBk
Protection ratio -41.98 dB
Population in IX area 116

IX from ATV station WFUM FLINT MI 52 1.0 square km
ERP 106.43 kw 20.27 dBk MAX ERP 117.50 kw 20.70 dBk
Protection ratio -62.40 dB
Population in IX area 0

Total IX from ATV stations 1519.2 square km

Population in IX area 178964

Interference caused to: 1519.2 square km of service area

Population in IX area 178964

Percent Match: 99.0

TABLE 3
NTSC AND DTV CHANNELS

WITHIN 200.0 KM OF 42.44778 83.17305

BY NTSC CHANNEL

DETROIT	MI WJBK	2 58	3.6378
KALAMAZOO	MI WWMT	3 2	194.7371
CLEVELAND	OH WKYC	3 2	170.2401
ALVINSTON	ON CHCH	3 0	116.0273
DETROIT	MI WDIV	4 45	4.7031
BAY CITY	MI WNEM	5 22	126.0420
CLEVELAND	OH WEWS	5 15	169.4620
LANSING	MI WLNS	6 59	102.0364
DETROIT	MI WXYZ	7 41	6.8110
GRAND RAPIDS	MI WOOD	8 7	193.1122
CLEVELAND	OH WJW	8 31	170.4708
WINDSOR	ON CBET	9 0	17.7838
ONONDAGA	MI WILX	10 57	114.7835
LONDON	ON CFPL	10 0	165.6194
TOLEDO	OH WTOL	11 17	87.8130
FLINT	MI WJRT	12 36	113.0542
TOLEDO	OH WTVG	13 19	87.2558
MOUNT PLEASANT	MI WCMU	14 56	180.4105
EXETER	ON NEW	14 0	170.4644
BAD AXE	MI NEW	15 0	151.3226
CHATHAM	ON CHWI	16 0	68.7327
CHATHAM	ON NEW	16 0	81.3777
GRAND RAPIDS	MI WXMI	17 19	194.9662
SARNIA	ON NEW	17 0	85.2811
SARNIA-OIL SPRINGS	ON NEW	17 0	86.5254
JACKSON	MI WHTV	18 34	103.5227
LONDON	ON CICO	18 0	158.8214
UNIVERSITY CENTER	MI WUCM	19 18	140.1987
SHAKER HEIGHTS	OH WOIO	19 10	169.7793
DETROIT	MI WXON	20 21	12.0862
STEVENSON	ON CIII	22 0	71.0714
EAST LANSING	MI WKAR	23 55	105.4474
TOLEDO	OH WNWO	24 49	88.0341
SAGINAW	MI WEYI	25 30	96.4708
CLEVELAND	OH WVIZ	25 26	170.8418
WINDSOR	ON NEW	26 0	18.5104
BOWLING GREEN	OH WBGU	27 56	157.8634
FLINT	MI WFUM	28 52	55.4390
SARNIA-OIL SPRINGS	ON CIII	29 0	87.8366
TOLEDO	OH WGTE	30 29	90.4005
ANN ARBOR	MI WBSX	31 33	74.1132
WINDSOR	ON CICO	32 0	37.5394
GODERICH	ON NEW	33 0	186.8652
SARNIA	ON CBLN	34 0	85.2811
BAD AXE	MI WUCX	35 15	139.4097
TOLEDO	OH WUPW	36 46	90.8296
MOUNT CLEMENS	MI WADL	38 39	26.2181
TOLEDO	OH WLMB	40 5	104.7216
LONDON	ON CBLN	40 0	158.8214
LONDON	ON NEW	40 0	158.8214
BATTLE CREEK	MI WOTV	41 20	188.6710
BAD AXE	MI NEW	41 0	155.4352
SARNIA	ON CKCO	42 0	89.8588
BATTLE CREEK	MI WJUE	43 44	157.0692
LORAIN	OH WUAB	43 28	168.9691
PORT HURON	MI NEW	46 0	84.1743
LANSING	MI WSYM	47 38	121.2708

TABLE 3 (Page 2 of 3)
NTSC AND DTV CHANNELS

MANSFIELD	OH NEW	47	0	195.2741
CHATHAM	ON CBLF	48	0	89.3737
SAGINAW	MI WAQP	49	48	112.0420
AKRON	OH WEAQ	49	32	198.2680
DETROIT	MI WKBD	50	14	12.0862
LONDON	ON CHCH	51	0	116.0273
SARNIA-OIL SPRINGS	ON NEW	51	0	89.8588
SANDUSKY	OH WGGN	52	42	121.0073
LANSING	MI WLAJ	53	51	110.8591
LONDON	ON CBLF	53	0	158.8214
WINDSOR	ON CBEF	54	0	37.5394
AKRON	OH WBNX	55	30	170.0449
DETROIT	MI WTVS	56	43	12.0862
BAD AXE	MI NEW	57	0	151.3226
ANN ARBOR	MI NEW	58	0	46.3261
CHATHAM	ON CICO	59	0	89.3737
WINDSOR	ON NEW	60	0	18.2621
WINDSOR	ON NEW	60	0	48.6379
CLEVELAND	OH WQHS	61	34	169.6816
BAY CITY	MI NEW	61	0	141.3131
DETROIT	MI WWJ	62	44	0.9923
ANGOLA	IN WINM	63	12	174.1965
SARNIA-OIL SPRINGS	ON NEW	63	0	86.5254
KALAMAZOO	MI WLLA	64	45	187.7222
CHATHAM	ON CBLN	64	0	89.3737
ST THOMAS	ON NEW	64	0	165.6384
DEFIANCE	OH NEW	65	0	162.2472
FLINT	MI WSMH	66	16	112.0420
MANSFIELD	OH WMFD	68	12	192.7681
SARNIA-OIL SPRINGS	ON CBLF	68	0	85.2811
EAST LANSING	MI NEW	69	0	111.8695
LONDON	ON NEW	69	0	158.8214
LONDON	ON CFMT	69	0	158.8214
LONDON	ON NEW	69	0	169.2174

BY ATV CHANNEL

KALAMAZOO	MI WWMT	3	2	194.7371
CLEVELAND	OH WKYC	3	2	170.2401
TOLEDO	OH WLMB	40	5	104.7216
GRAND RAPIDS	MI WOOD	8	7	193.1122
SHAKER HEIGHTS	OH WOIO	19	10	169.7793
ANGOLA	IN WINM	63	12	174.1965
MANSFIELD	OH WMFD	68	12	192.7681
DETROIT	MI WKBD	50	14	12.0862
BAD AXE	MI WUCX	35	15	139.4097
CLEVELAND	OH WEWS	5	15	169.4620
FLINT	MI WSMH	66	16	112.0420
TOLEDO	OH WTOL	11	17	87.8130
UNIVERSITY CENTER	MI WUCM	19	18	140.1987
GRAND RAPIDS	MI WXMI	17	19	194.9662
TOLEDO	OH WTVG	13	19	87.2558
BATTLE CREEK	MI WOTV	41	20	188.6710
DETROIT	MI WXON	20	21	12.0862
BAY CITY	MI WNEM	5	22	126.0420
CLEVELAND	OH WVIZ	25	26	170.8418
LORAIN	OH WUAB	43	28	168.9691
TOLEDO	OH WGTE	30	29	90.4005
SAGINAW	MI WEYI	25	30	96.4708
AKRON	OH WBNX	55	30	170.0449

TABLE 3 (Page 3 of 3)
NTSC AND DTV CHANNELS

CLEVELAND	OH WJW	8 31	170.4708
AKRON	OH WEAQ	49 32	198.2680
ANN ARBOR	MI WBSX	31 33	74.1132
JACKSON	MI WHTV	18 34	103.5227
CLEVELAND	OH WQHS	61 34	169.6816
FLINT	MI WJRT	12 36	113.0542
LANSING	MI WSYM	47 38	121.2708
MOUNT CLEMENS	MI WADL	38 39	26.2181
DETROIT	MI WXYZ	7 41	6.8110
SANDUSKY	OH WGGN	52 42	121.0073
DETROIT	MI WTVS	56 43	12.0862
BATTLE CREEK	MI WJUE	43 44	157.0692
DETROIT	MI WWJ	62 44	0.9923
DETROIT	MI WDIV	4 45	4.7031
KALAMAZOO	MI WLLA	64 45	187.7222
TOLEDO	OH WUPW	36 46	90.8296
SAGINAW	MI WAQP	49 48	112.0420
TOLEDO	OH WNWO	24 49	88.0341
LANSING	MI WLAI	53 51	110.8591
FLINT	MI WFUM	28 52	55.4390
EAST LANSING	MI WKAR	23 55	105.4474
MOUNT PLEASANT	MI WCMU	14 56	180.4105
BOWLING GREEN	OH WBGU	27 56	157.8634
ONONDAGA	MI WILX	10 57	114.7835
DETROIT	MI WJBK	2 58	3.6378
LANSING	MI WLNS	6 59	102.0364

**Source: From MSTV database
obtained in 5/97**

8/20/97

TABLE 4

Longley-Rice analysis of ATV station

WWJ DETROIT MI Channel 65

ERP 169.19 kw 22.28 dBk HAAT: 325.8 meters ERP MAX 167.7 kw 22.2 dBk

Percent quantiles: Time 90.0% Locations 50.0% Confidence 50.0%

FCC noise limited service area equals 18910.6 square km 18910.6 square km

Service contour: 42.8 dBu Curve F50/90 82.4 km 82.4 km

Above based on replication power of: 169.2 KW

Population within noise limited service area 4719634

Longley-Rice noise limited service area equals 18870.0 square km

Longley-Rice service population 4718678

IX from NTSC station WSMH FLINT MI 66 165.8 square km

ERP 5000.00 kw 36.99 dBk

Protection ratio -48.71 dB

Population in IX area 70346

Total IX from NTSC stations 165.8 square km

Population in IX area 70346

Total IX from ATV stations 0.0 square km

Population in IX area 0

Interference caused to: 165.8 square km of service area

Population in IX area 70346

Percent Match: 100.0